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RAW SEQUENCE LISTING

DATE: 07/20/2001

PATENT APPLICATION: US/09/902,460

TIME: 11:35:19

Input Set : N:\Crif3\RULE60\09902460.txt

Output Set: N:\CRF3\07202001\I902460.raw

SEQUENCE LISTING

3 (1) GENERAL INFORMATION:

5 (i) APPLICANT: FIDDES, J.C.

6 ABRAHAM, J.D.

8 (ii) TITLE OF INVENTION: HUMAN BASIC FIBROBLAST GROWTH

9 FACTOR ANALOG

11 (iii) NUMBER OF SEQUENCES: 69

13 (iv) CORRESPONDENCE ADDRESS:

14 (A) ADDRESSEE: MORRISON & FOERSTER

15 (B) STREET: 755 PAGE MILL ROAD

16 (C) CITY: Palo Alto

17 (D) STATE: CA

18 (E) COUNTRY: USA

19 (F) ZIP: 94304-1018

21 (v) COMPUTER READABLE FORM:

22 (A) MEDIUM TYPE: Diskette

23 (B) COMPUTER: IBM Compatible

24 (C) OPERATING SYSTEM: Windows

25 (D) SOFTWARE: FastSEQ for Windows Version 2.0b

27 (vi) CURRENT APPLICATION DATA:

C--> 28 (A) APPLICATION NUMBER: US/09/902,460

C--> 29 (B) FILING DATE: 09-Jul-2001

30 (C) CLASSIFICATION:

32 (vii) PRIOR APPLICATION DATA:

33 (A) APPLICATION NUMBER: 09/098,628

34 (B) FILING DATE:

38 (viii) ATTORNEY/AGENT INFORMATION:

39 (A) NAME: Lehnhardt, Susan K

40 (B) REGISTRATION NUMBER: 33,943

41 (C) REFERENCE/DOCKET NUMBER: 21900-20089.10

43 (ix) TELECOMMUNICATION INFORMATION:

44 (A) TELEPHONE: 650-813-5600

45 (B) TELEFAX: 650-494-0792

46 (C) TELEX: 706141

49 (2) INFORMATION FOR SEQ ID NO: 1:

51 (i) SEQUENCE CHARACTERISTICS:

52 (A) LENGTH: 1969 base pairs

53 (B) TYPE: nucleic acid

54 (C) STRANDEDNESS: double

55 (D) TOPOLOGY: linear

57 (ii) MOLECULE TYPE: cDNA

58 (ix) FEATURE:

60 (A) NAME/KEY: Coding Sequence

61 (B) LOCATION: 970...1434

62 (D) OTHER INFORMATION:

64 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

66 AATTCATGCC TCTTTCTCTC CTTTGTGG TAGACGACTT CAGCCTCTGT CCTTTAATTT 60

ENTERED

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67 TAAAGTTTAT GCCCACTTG TACCCCTCGT CTTTGGTGA TTTAGAGATT TTCAAAGCCT 120
68 GCTCTGACAC AGACTCTTCC TTGGATTGCA ACTTCTCTAC TTTGGGGTGG AAACGGCTTC 180
69 TCCGTTTGA AACGCTAGCG GGGAAAAAAT GGGGGAGAAA GTTGAGTTTA AACTTTTAAA 240
70 AGTTGAGTCA CGGCTGGTTG CGCACGAAAA GCCCCGAGT GTGGAGAAAG CCTAAACGTG 300
71 GTTTGGGTGG TCGGGGGGTT GGGCGGGGGT GACTTTTGGG GGATAAGGGG CGGTGGAGCC 360
72 CAGGAATGC CAAAGCCCTG CCGCGGCCTC CGACGCGCGC CCCCCGCCCC TCGCCTCTCC 420
73 CCGCCCCCG ACTGAGGCCG GGCTCCCCGC CGGACTGATG TCGCGCGCTT GCGTGTGTG 480
74 GCCGAAGCCG CCGAACTCAG AGGCCGGCCC CAGAAAACCC GAGCGAGTAG GGGCGGCGCG 540
75 GCAGGAGGGA GGAGAACTGG GGGCGCGGGA GGCTGGTGGG TGTGGGGGGT GGAGATGTAG 600
76 AAGATGTGAC GCCGCGGCCC GCGGGGTGCC AGATTAGCGG ACGGCTGCCC GCGGTTGCAA 660
77 CGGGATCCCG GGCGCTGCAG CTTGGGAGGC GGCTCTCCCC AGGCGGCGTC CGCGGAGACA 720
78 CCCATCTGTG AACCCAGGT CCGGGCCGC CGGCTCGCCG CGCACCAGGG GCGGCGGAC 780
79 AGAAGAGCGG CCGAGCGGCT CGAGGCTGGG GGACCGCGGG CGCGGCCGCG CGCTGCCGGG 840
80 CGGGAGGCTG GGGGGCCGGG GCCGGGGCCG TGCCCGGAGC GGGTCGGAGG CCGGGGCCGG 900
81 GGCCGGGGGA CGGCGGCTCC CCGCGGGCT CCAGCGGCTC GGGGATCCCG GCCGGGCCCC 960
82 GCAGGGACC ATG GCA GCC GGG AGC ATC ACC ACG CTG CCC GCC TTG CCC GAG 1011
83 Met Ala Ala Gly Ser Ile Thr Thr Leu Pro Ala Leu Pro Glu
84 1 5 10
86 GAT GGC GGC AGC GGC GCC TTC CCG CCC GGC CAC TTC AAG GAC CCC AAG 1059
87 Asp Gly Gly Ser Gly Ala Phe Pro Pro Gly His Phe Lys Asp Pro Lys
88 15 20 25 30
90 CGG CTG TAC TGC AAA AAC GGG GGC TTC TTC CTG CGC ATC CAC CCC GAC 1107
91 Arg Leu Tyr Cys Lys Asn Gly Gly Phe Phe Leu Arg Ile His Pro Asp
92 35 40 45
94 GGC CGA GTT GAC GGG GTC CGG GAG AAG AGC GAC CCT CAC ATC AAG CTA 1155
95 Gly Arg Val Asp Gly Val Arg Glu Lys Ser Asp Pro His Ile Lys Leu
96 50 55 60
98 CAA CTT CAA GCA GAA GAG AGA GGA GTT GTG TCT ATC AAA GGA GTG TGT 1203
99 Gln Leu Gln Ala Glu Glu Arg Gly Val Val Ser Ile Lys Gly Val Cys
100 65 70 75
102 GCT AAC CGT TAC CTG GCT ATG AAG GAA GAT GGA AGA TTA CTG GCT TCT 1251
103 Ala Asn Arg Tyr Leu Ala Met Lys Glu Asp Gly Arg Leu Leu Ala Ser
104 80 85 90
106 AAA TGT GTT ACG GAT GAG TGT TTC TTT TTT GAA CGA TTG GAA TCT AAT 1299
107 Lys Cys Val Thr Asp Glu Cys Phe Phe Phe Glu Arg Leu Glu Ser Asn
108 95 100 105 110
110 AAC TAC AAT ACT TAC CGG TCA AGG AAA TAC ACC AGT TGG TAT GTG GCA 1347
111 Asn Tyr Asn Thr Tyr Arg Ser Arg Lys Tyr Thr Ser Trp Tyr Val Ala
112 115 120 125
114 TTG AAA CGA ACT GGG CAG TAT AAA CTT GGA TCC AAA ACA GGA CCT GGG 1395
115 Leu Lys Arg Thr Gly Gln Tyr Lys Leu Gly Ser Lys Thr Gly Pro Gly
116 130 135 140
118 CAG AAA GCT ATA CTT TTT CTT CCA ATG TCT GCT AAG AGC TGATTTTAAT GG 1446
119 Gln Lys Ala Ile Leu Phe Leu Pro Met Ser Ala Lys Ser
120 145 150 155
122 CCACATCTAA TCTCATTTCA CATGAAAGAA GAAGTATATT TTAGAAATTT GTTAATGAGA 1506
123 GTAAAAGAAA ATAAATGTGT ATAGCTCAGT TTGGATAATT GGTCAAACAA TTTTATATCC 1566
124 AGTAGTAAAA TATGTAACCA TGCCAGTAA AGAAAAATAA CAAAAGTTGT AAAATGTATA 1626
125 TTCTCCCTTT TATATTGCAT CTGCTGTAC CCAGTGAAGC TTACCTAGAG CAATGATCTT 1686

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```

126 TTTCACGCAT TTGCTTTTATT CGAAAAGAGG CTTTTAAAAT GTGCATGTTT AGAAAACAAA 1746
127 ATTTCTTCAT GGAAATCATA TACATTAGAA AATCACAGTC AGATGTTTAA TCAATCCAAA 1806
128 AATGTCCACT ATTTCTTATG TCATTCGTTA GTCTACATGT TTCTAAACAT ATAAATGTGA 1866
129 ATTTAATCAA TTCCTTTCAT AGTTTTATAA TTCTCTGGCA GTTCCTTATG ATAGAGTTTA 1926
130 TAAAACAGTC CTGTGTAAAC TGCTGGAAGT TCTTCCGGA TTC 1969

```

132 (2) INFORMATION FOR SEQ ID NO: 2:

134 (i) SEQUENCE CHARACTERISTICS:

135 (A) LENGTH: 155 amino acids

136 (B) TYPE: amino acid

137 (C) STRANDEDNESS: single

138 (D) TOPOLOGY: linear

140 (ii) MOLECULE TYPE: protein

141 (v) FRAGMENT TYPE: internal

143 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

```

145 Met Ala Ala Gly Ser Ile Thr Thr Leu Pro Ala Leu Pro Glu Asp Gly
146 1 5 10 15
147 Gly Ser Gly Ala Phe Pro Pro Gly His Phe Lys Asp Pro Lys Arg Leu
148 20 25 30
149 Tyr Cys Lys Asn Gly Gly Phe Phe Leu Arg Ile His Pro Asp Gly Arg
150 35 40 45
151 Val Asp Gly Val Arg Glu Lys Ser Asp Pro His Ile Lys Leu Gln Leu
152 50 55 60
153 Gln Ala Glu Glu Arg Gly Val Val Ser Ile Lys Gly Val Cys Ala Asn
154 65 70 75 80
155 Arg Tyr Leu Ala Met Lys Glu Asp Gly Arg Leu Leu Ala Ser Lys Cys
156 85 90 95
157 Val Thr Asp Glu Cys Phe Phe Phe Glu Arg Leu Glu Ser Asn Asn Tyr
158 100 105 110
159 Asn Thr Tyr Arg Ser Arg Lys Tyr Thr Ser Trp Tyr Val Ala Leu Lys
160 115 120 125
161 Arg Thr Gly Gln Tyr Lys Leu Gly Ser Lys Thr Gly Pro Gly Gln Lys
162 130 135 140
163 Ala Ile Leu Phe Leu Pro Met Ser Ala Lys Ser
164 145 150 155

```

166 (2) INFORMATION FOR SEQ ID NO: 3:

168 (i) SEQUENCE CHARACTERISTICS:

169 (A) LENGTH: 638 base pairs

170 (B) TYPE: nucleic acid

171 (C) STRANDEDNESS: double

172 (D) TOPOLOGY: linear

174 (ii) MOLECULE TYPE: cDNA

175 (ix) FEATURE:

177 (A) NAME/KEY: Coding Sequence

178 (B) LOCATION: 91...555

179 (D) OTHER INFORMATION:

181 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

```

183 TGCATTTTGT GCCTTTGCTG GAAGAACCGA CTACAGTTT GTTCAATTTC TTACAGTCTT 60
184 GAAAGCGCCA CAAGCAGCAG CTGCTGAGCC ATG GCT GAA GGG GAA ATC ACC ACC 114
185 Met Ala Glu Gly Glu Ile Thr Thr

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186                                     1               5
188   TTC ACA GCC CTG ACC GAG AAG TTT AAT CTG CCT CCA GGG AAT TAC AAG      162
189   Phe Thr Ala Leu Thr Glu Lys Phe Asn Leu Pro Pro Gly Asn Tyr Lys
190       10                      15                      20
192   AAG CCC AAA CTC CTC TAC TGT AGC AAC GGG GGC CAC TTC CTG AGG ATC      210
193   Lys Pro Lys Leu Leu Tyr Cys Ser Asn Gly Gly His Phe Leu Arg Ile
194   25                      30                      35                      40
196   CTT CCG GAT GGC ACA GTG GAT GGG ACA AGG GAC AGG AGC GAC CAG CAC      258
197   Leu Pro Asp Gly Thr Val Asp Gly Thr Arg Asp Arg Ser Asp Gln His
198       45                      50                      55
200   ATT CAG CTG CAG CTC AGT GCG GAA AGC GTG GGG GAG GTG TAT ATA AAG      306
201   Ile Gln Leu Gln Leu Ser Ala Glu Ser Val Gly Glu Val Tyr Ile Lys
202       60                      65                      70
204   AGT ACC GAG ACT GGC CAG TAC TTG GCC ATG GAC ACC GAC GGG CTT TTA      354
205   Ser Thr Glu Thr Gly Gln Tyr Leu Ala Met Asp Thr Asp Gly Leu Leu
206       75                      80                      85
208   TAC GGC TCA CAG ACA CCA AAT GAG GAA TGT TTG TTC CTG GAA AGG CTG      402
209   Tyr Gly Ser Gln Thr Pro Asn Glu Glu Cys Leu Phe Leu Glu Arg Leu
210       90                      95                      100
212   GAG GAG AAC CAT TAC AAC ACC TAT ATA TCC AAG AAG CAT GCA GAG AAG      450
213   Glu Glu Asn His Tyr Asn Thr Tyr Ile Ser Lys Lys His Ala Glu Lys
214   105                      110                      115                      120
216   AAT TGG TTT GTT GGC CTC AAG AAG AAT GGG AGC TGC AAA CGC GGT CCT      498
217   Asn Trp Phe Val Gly Leu Lys Lys Asn Gly Ser Cys Lys Arg Gly Pro
218       125                      130                      135
220   CGG ACT CAC TAT GGC CAG AAA GCA ATC TTG TTT CTC CCC CTG CCA GTC      546
221   Arg Thr His Tyr Gly Gln Lys Ala Ile Leu Phe Leu Pro Leu Pro Val
222       140                      145                      150
224   TCT TCT GAT TAAAGAGATC TGTTCTGGGT GTTGACCACT CCAGAGAAGT TTCGAGGGG      604
225   Ser Ser Asp
226       155
228   TCCTCACCTG GTTGACCCAA AAATGTTCCC TTGA                                638
230 (2) INFORMATION FOR SEQ ID NO: 4:
232   (i) SEQUENCE CHARACTERISTICS:
233       (A) LENGTH: 155 amino acids
234       (B) TYPE: amino acid
235       (C) STRANDEDNESS: single
236       (D) TOPOLOGY: linear
238   (ii) MOLECULE TYPE: protein
239   (v) FRAGMENT TYPE: internal
241   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
243   Met Ala Glu Gly Glu Ile Thr Thr Phe Thr Ala Leu Thr Glu Lys Phe
244       1               5               10               15
245   Asn Leu Pro Pro Gly Asn Tyr Lys Lys Pro Lys Leu Leu Tyr Cys Ser
246       20               25               30
247   Asn Gly Gly His Phe Leu Arg Ile Leu Pro Asp Gly Thr Val Asp Gly
248       35               40               45
249   Thr Arg Asp Arg Ser Asp Gln His Ile Gln Leu Gln Leu Ser Ala Glu
250       50               55               60

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```

251 Ser Val Gly Glu Val Tyr Ile Lys Ser Thr Glu Thr Gly Gln Tyr Leu
252 65                               70                               75                               80
253 Ala Met Asp Thr Asp Gly Leu Leu Tyr Gly Ser Gln Thr Pro Asn Glu
254                               85                               90                               95
255 Glu Cys Leu Phe Leu Glu Arg Leu Glu Glu Asn His Tyr Asn Thr Tyr
256                               100                              105                              110
257 Ile Ser Lys Lys His Ala Glu Lys Asn Trp Phe Val Gly Leu Lys Lys
258                               115                              120                              125
259 Asn Gly Ser Cys Lys Arg Gly Pro Arg Thr His Tyr Gly Gln Lys Ala
260                               130                              135                              140
261 Ile Leu Phe Leu Pro Leu Pro Val Ser Ser Asp
262 145                               150                               155

```

264 (2) INFORMATION FOR SEQ ID NO: 5:

266 (i) SEQUENCE CHARACTERISTICS:

267 (A) LENGTH: 103 base pairs

268 (B) TYPE: nucleic acid

269 (C) STRANDEDNESS: single

270 (D) TOPOLOGY: linear

273 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

275 AGAATTCAAA TATTCTGAAA TGAGCTGTTG ACAATTAATC ATCGAACTAG TTAAGTAGTA 60

276 CGCAAGTTCA CGTAAAAGG GTATCACATA TGGTACCTGC AGA 103

278 (2) INFORMATION FOR SEQ ID NO: 6:

280 (i) SEQUENCE CHARACTERISTICS:

281 (A) LENGTH: 103 base pairs

282 (B) TYPE: nucleic acid

283 (C) STRANDEDNESS: single

284 (D) TOPOLOGY: linear

287 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

289 TCTGCAGGTA CCATATGTGA TACCCTTTTT ACGTGAAGTT GCGTACTAGT TAACTAGTTC 60

290 GATGATTAAT TGTCAACAGC TCATTTCAGA ATATTGAAT TCT 103

292 (2) INFORMATION FOR SEQ ID NO: 7:

294 (i) SEQUENCE CHARACTERISTICS:

295 (A) LENGTH: 16 base pairs

296 (B) TYPE: nucleic acid

297 (C) STRANDEDNESS: single

298 (D) TOPOLOGY: linear

301 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

303 GAAATACACC AGTTGG 16

305 (2) INFORMATION FOR SEQ ID NO: 8:

307 (i) SEQUENCE CHARACTERISTICS:

308 (A) LENGTH: 17 base pairs

309 (B) TYPE: nucleic acid

310 (C) STRANDEDNESS: single

311 (D) TOPOLOGY: linear

314 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

316 ACTTGATCC AAAACAG 17

318 (2) INFORMATION FOR SEQ ID NO: 9:

320 (i) SEQUENCE CHARACTERISTICS:

321 (A) LENGTH: 25 base pairs

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/902,460

DATE: 07/20/2001

TIME: 11:35:20

Input Set : N:\Crf3\RULE60\09902460.txt

Output Set: N:\CRF3\07202001\I902460.raw

L:28 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:29 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]